UTAH DEPARTMENT OF HEALTH

Utah Health Status Update:

Changes in Rates of Children with Autism Spectrum Disorders 2002 - 2010

January 2013

Prevalence rates of autism spectrum disorders (ASDs) in the U.S. have significantly risen over the past decade.[1] Like elsewhere in the U.S., increases in Utah rates are dramatic. Utah rates are among the highest in the nation and nearly double the national average.

The Utah Registry of Autism and Developmental Disabilities (URADD) is a surveillance and information system of the Utah Department of Health in collaboration with the University of Utah. URADD collects information about the number of individuals in Utah who have ASDs and other developmental disabilities.

Changes in Utah's administrative prevalence of ASDs from 2002 to 2010 are shown in Table 1. An ASD administrative rate includes children with an existing ASD classification from a school or health provider. The administrative prevalence of ASDs in children eight years of age has more than doubled from 2002 to 2010 (6.5 and 15.8 per 1,000 respectively). Among six-year-olds, rates from 2006 to 2010 increased (9.8 and 13.7 per 1,000 respectively). Similarly, in children aged four, the prevalence rates increased from 2006 to 2010 (7.5 and 9.2 per 1,000 respectively). Possible explanations for lower rates in four year olds compared to rates in older children may be delays in early detection of autism, ASD diagnosis not definite, and lack of access to services.

- **Utah rates of ASDs are among the highest in the nation and nearly double the national average.**
- **Utah boys are nearly four times more likely than girls to have an administrative prevalence of an ASD.**
- **Lower rates of ASD among four year olds compared to rates among older children may be attributed to delays in early detection, difficulty in obtaining an ASD diagnosis and lack of access to services.**
- **Reasons for increases in the rate of ASD is unknown but may be related to: improvements in screening, diagnosis, and treatment; greater awareness of the condition; and or improved documentation.**
- **Economic costs of ASD are substantial. Medical expenditures per year for individuals with ASD are substantially higher than those without ASDs.**

Estimated Administrative Prevalence of Autism Spectrum Disorders

Table 1. Per 1,000 children by age (four, six, and eight) and study year (2002-2010)

	Age	Population Size	Cases	Prevalence (per 1,000)
2002*	8	26,213	171	6.5 (1 in 153)
2006*	4	33,955	256	7.5 (1 in 133)
	6	32,801	322	9.8 (1 in 102)
	8	29,494	301	10.2 (1 in 98)
2008*	4	35,803	293	8.2 (1 in 122)
	6	34,368	418	12.2 (1 in 82)
	8	33,210	432	13.0 (1 in 77)
2010†	4	37,066	342	9.2 (1 in 108)
	6	37,134	508	13.7 (1 in 73)
	8	36,201	573	15.8 (1 in 63)

* 2002-2008 includes Davis, Salt Lake, and Utah counties.
† 2010 includes Davis, Salt Lake, Tooele, and Utah counties.
Source: Pinborough-Zimmerman, J., Intveld, A., Kingsbury, C.M.B. Changes in the Administrative Prevalence of Autism Spectrum Disorders in Utah from 2002-2010, University of Utah, 2012.

ASDs are more common in boys than in girls (Figure 1). Utah boys are nearly four times more likely than girls to have an administrative prevalence of an ASD. ASD rates in Utah boys aged eight more than doubled from study year 2002 to study year 2010 (10.5 per 1,000 or 1 in 95 and 25.4 per 1,000 or 1 in 39).

Further research is needed to understand what is causing the increase in the diagnosis of ASD. No single factor can explain why more children are being identified. Some increases are likely due to improvements in screening, diagnosis and treatment, greater awareness, and better record keeping/documentation. Exactly how much is due to these or other factors is still unknown. Research indicates that there is no single cause of autism. Both genetic and non-genetic factors are likely involved.

The economic costs of ASD in the U.S. are substantial. A recent study reported that the total cost of autism has increased to $126 billion annually.[2] Medical expenditures per year for individuals with ASD are $4,110–$6,200 higher than those without ASDs.[3] For Medicaid-enrolled children with ASD, average annual medical costs in 2005 were

approximately $10,709 per child – six times higher than the costs for children without ASD.[4] Apart from medical costs, behavioral interventions for a child with an ASD cost $40,000 to $60,000 annually.[5] These costs do not address the social-emotional costs to the child and family.

For more information on autism, please visit the following sites:

http://www.utahautismregistry.com

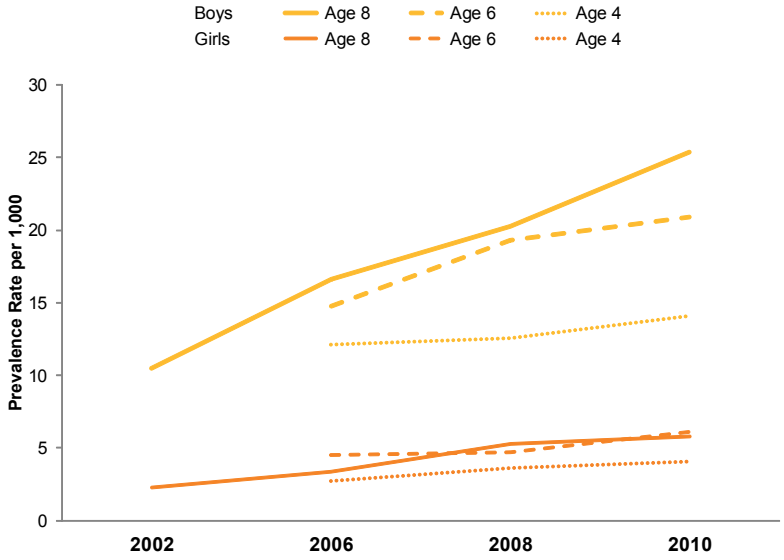
http://autismcouncilofutah.org

http://www.cdc.gov/ncbddd/actearly/index.html

http://www.autismspeaks.org

Estimated Administrative Prevalence of Autism Spectrum Disorders

Figure 1. Per 1,000 children by age, gender and study year



Source: Pinborough-Zimmerman, J., Intveld, A., Kingsbury, C.M.B. Changes in the Administrative Prevalence of Autism Spectrum Disorders in Utah from 2002-2010, University of Utah, 2012.

References

1. Autism and Developmental Disabilities Monitoring Network Surveillance Year 2008 Principal Investigators: Centers for Disease Control and Prevention (2012). Prevalence of autism spectrum disorders—Autism and Developmental Disabilities Monitoring Network, 14 sites, United States, 2008. Morbidity and Mortality Weekly Report Surveillance Summary, 61(3):1-19.
2. Autism Speaks, Inc. (2012). New Research Finds Annual Cost of Autism Has More Than Tripled to $126 Billion in the U.S. and Reached £34 Billion in the U.K. Retrieved from http://www.autismspeaks.org/about-us/press-releases/annual-cost-of-autism-triples
3. Shimabukuro, T. T., Grosse, S. D., Rice, C. (2008). Medical Expenditures for Children with an Autism Spectrum Disorder in a Privately Insured Population. Journal of Autism and Developmental Disorders, 38, 546-552.
4. Peacock, G., Amendah, D., Ouyang, L., Grosse, S. D. (2012). Autism Spectrum Disorders and Health Care Expenditures: The Effects of Co-Occurring Conditions. Journal of Developmental and Behavioral Pediatrics, 33, 2-8.
5. Amendah, D., Grosse, S. D., Peacock, G., Mandell, D. S. (2011). The economic costs of autism: A review. In D. Amaral, D. Geschwind, & G. Dawson (Eds.), Autism Spectrum Disorders (1347-1360). Oxford: Oxford University Press.

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Breaking News, January 2013

2012 Influenza Update

Influenza activity is increasing in Utah, but we are not experiencing the increase currently seen in the south central and southeast regions of the country. Influenza activity is higher at this point of the season than the past three seasons, though current trends are still in the low to moderate range. To date, 33 hospitalized cases of influenza have been reported in Utah, with no deaths, and an even distribution between influenza B and influenza A H3. The 2012 influenza vaccine provides protection against both strains, and the Centers for Disease Control and Prevention (CDC) report the vaccine is a good match for the circulating strains this year, which include:

- an A/California/7/2009 (H1N1)pdm09-like virus;
- an A/Victoria/361/2011 (H3N2)-like virus;
- a B/Wisconsin/1/2010-like virus (from the B/Yamagata lineage of viruses).

According to the Behavioral Risk Factor Surveillance System (BFRSS), 56.9% of non-institutionalized adults >65 years of age were vaccinated with the influenza vaccine during the 2011-2012 influenza season, compared to the national average of 61.3%. State-specific influenza vaccination data is not available for children. Based on the 2012 national early season vaccination estimates, influenza vaccination coverage is similar to those from the same time during the last influenza season with fewer than half of children and adults vaccinated by early to mid-November 2012. Final 2012-13 influenza season vaccination coverage estimates will be available after the end of the season.

For more information, please visit: http://health.utah.gov/epi/diseases/influenza/surveillance/2012-2013_Season/index.html.

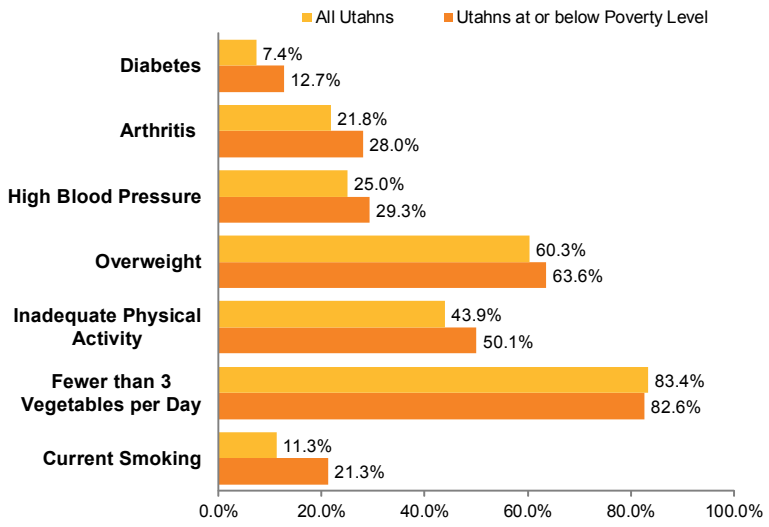
Community Health Indicators Spotlight, January 2013

Social Determinants of Health: Income Disparities

The social determinants of health include a broad range of conditions in people's environments that affect health. Poverty is one example of such a condition. Poverty is measured by income and household size and is intended to represent having less than the minimum resources necessary to satisfy basic needs of food, clothing and shelter.

According to the 2011 American Community Survey, 13.5% of Utahns live below poverty level. Analyses of the Utah Behavioral Risk Factor Surveillance System (BRFSS) show that Utah adults in poverty have higher rates of certain diseases and disease risks than Utahns statewide for most indicators. One exception is vegetable consumption; not consuming enough vegetables is a problem among Utahns of all income levels.

Disease and Risk Factor Prevalence Rates, Utahns in Poverty and Utahns Statwide, 2011



Source: Utah BRFSS, Age-adjusted to the U.S. 2000 population

Monthly Health Indicators Report

(Data Through November 2012)

Monthly Report of Notifiable Diseases, November 2012	Current Month # Cases	Current Month # Expected Cases (5-yr average)	# Cases YTD	# Expected YTD (5-yr average)	YTD Standard Morbidity Ratio (obs/exp)
Campylobacteriosis (Campylobacter)	11	23	449	357	1.3
Shiga toxin-producing Escherichia coli (E. coli)	0	6	103	117	0.9
Hepatitis A (infectious hepatitis)	0	1	4	9	0.5
Hepatitis B, acute infections (serum hepatitis)	0	1	12	10	1.2
Influenza*	Weekly updates at http://health.utah.gov/epi/diseases/flu				
Meningococcal Disease	0	0	4	6	0.6
Pertussis (Whooping Cough)	38	29	1,257	318	4.0
Salmonellosis (Salmonella)	5	27	239	315	0.8
Shigellosis (Shigella)	0	3	31	40	0.8
Varicella (Chickenpox)	12	50	244	530	0.5
Quarterly Report of Notifiable Diseases, 3rd Qtr 2012	**Current Quarter # Cases**	**Current Quarter # Expected Cases (5-yr average)**	**# Cases YTD**	**# Expected YTD (5-yr average)**	**YTD Standard Morbidity Ratio (obs/exp)**
HIV/AIDS†	8	25	67	82	0.8
Chlamydia	2,038	1,604	5,773	4,739	1.2
Gonorrhea	138	112	326	341	1.0
Syphilis	14	8	23	25	0.9
Tuberculosis	11	5	31	23	1.3
Medicaid Expenditures (in Millions) for the Month of November 2012	**Current Month**	**Expected/ Budgeted‡ for Month**	**Fiscal YTD**	**Budgeted‡ Fiscal YTD**	**Variance - over (under) budget**
Capitated Mental Health	$ 3.3	$ 13.9	$ 50.0	$ 55.4	$ (5.4)
Inpatient Hospital	$ 5.0	$ 32.5	$ 104.4	$ 129.6	$ (25.2)
Outpatient Hospital	$ 5.0	$ 10.0	$ 27.1	$ 39.9	$ (12.8)
Long Term Care	$ 13.3	$ 16.0	$ 62.7	$ 63.9	$ (1.2)
Pharmacy§	$ 12.3	$ 13.4	$ 67.0	$ 53.8	$ 13.3
Physician/Osteo Services	$ 7.5	$ 9.6	$ 35.2	$ 38.4	$ (3.2)
TOTAL HCF MEDICAID	$ 98.1	$ 110.2	$ 703.2	$ 727.1	$ (23.9)

Program Enrollment for the Month of November 2012	Current Month	Previous Month	% Change¶ From Previous Month	1 Year Ago	% Change¶ From 1 Year Ago
Medicaid	255,117	255,590	-0.2%	248,731	+2.6%
PCN (Primary Care Network)	13,722	15,110	-9.2%	11,715	+17.1%
CHIP (Children's Health Ins. Plan)	35,546	35,990	-1.2%	37,468	-5.1%
	Annual Visits			Annual Charges	
Health Care System Measures	**Number of Events**	**Rate per 100 Population**	**% Change¶ From Previous Year**	**Total Charges in Millions**	**% Change¶ From Previous Year**
Overall Hospitalizations (2010)	274,576	9.0%	-2.6%	$ 5,416.2	+5.9%
Non-maternity Hospitalizations (2010)	167,340	5.3%	-0.9%	$ 4,552.5	+5.9%
ED Encounters - Not Admitted (2010)	645,962	21.5%	-7.7%	$ 1,160.9	+7.4%
Outpatient Surgery (2009)	311,442	10.6%	+1.9%	$ 1,465.7	+14.7%
Annual Community Health Measures	**Current Data Year**	**Number Affected**	**Percent/ Rate**	**% Change¶ From Previous Year**	**State Rank# (1 is best)**
Obesity (Adults 18+)	2011	472,400	24.4%	+1.3%	12 (2011)
Cigarette Smoking (Adults 18+)	2011	229,300	11.8%	+2.7%	1 (2011)
Influenza Immunization (Adults 65+)	2011	147,400	56.9%	-15.5%	41 (2011)
Health Insurance Coverage (Uninsured)	2011	377,700	13.4%	+26.4%	n/a
Motor Vehicle Traffic Crash Injury Deaths	2010	231	8.1 / 100,000	+0.1%	19 (2009)
Poisoning Deaths	2010	342	12.0 / 100,000	-38.1%	47 (2009)
Suicide Deaths	2010	479	16.8 / 100,000	+5.8%	n/a
Diabetes Prevalence (Adults 18+)	2011	129,600	6.7%	-1.8%	6 (2011)
Poor Mental Health (Adults 18+)	2011	315,300	16.3%	-0.4%	17 (2011)
Coronary Heart Disease Deaths	2010	1,488	52.2 / 100,000	-0.4%	2 (2008)
All Cancer Deaths	2010	2,791	98.0 / 100,000	+7.9%	1 (2008)
Stroke Deaths	2010	736	25.8 / 100,000	-1.4%	13 (2008)
Births to Adolescents (Ages 15-17)	2010	876	14.3 / 1,000	-13.2%	17 (2009)
Early Prenatal Care	2010	38,124	73.1%	+2.1%	n/a
Infant Mortality	2010	251	4.8 / 1,000	-9.0%	3 (2008)
Childhood Immunization (4:3:1:3:3:1)	2010	38,900	70.6%	-7.8%	12 (2010)

Note: Active surveillance has ended for influenza virus until the 2012-2013 season.
† Diagnosed HIV infections, regardless of AIDS diagnosis.
‡ Budget has been revised to include supplemental funding from 2011 General Session.
§ Only includes the gross pharmacy costs. Pharmacy Rebate and Pharmacy Part-D amounts are excluded from this line item.
¶ % Change could be due to random variation.
# State rank based on age-adjusted rates.
Notes: Data for notifiable diseases are preliminary and subject to change upon the completion of ongoing disease investigations. Active surveillance for West Nile virus has ended until the 2012 season.